

REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-20 are presently pending in this application, Claims 1 and 6 having been amended by the present amendment.

In the outstanding Office Action, Claims 1-3, 6-8, 11, 12, 15 and 17 were rejected under 35 U.S.C. §102(b) as being anticipated by JP 10-205920 (hereinafter “JP ‘920”); Claims 4 and 9 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP ‘920 in view of Yamamoto et al. (U.S. Patent 6,125,922), Hu (U.S. Publication 2004/0261983) and Kraft (U.S. Publication 2002/0070012); and Claims 5, 10, 13, 14, 16 and 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP ‘920 in view of JP 2003-106338 (hereinafter “JP ‘338”).

Claims 1 and 6 have been amended herein. These amendments are believed to find support in the specification, claims and/or drawings as originally filed, for example, the specification, page 11, line 4, to page 14, line 12, as well as Fig. 1, and no new matter is believed to be added thereby. Also, these claim amendments are not believed to narrow the scopes of the claims. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work in a joint effort to derive mutually satisfactory claim language.

Briefly recapitulating, Claim 1 of the present invention is directed to a condenser and recites: “an inlet header and an outlet header spaced apart from each other in a left-right direction and extending vertically; and a plurality of flat refrigerant tubes arranged one above another in parallel at a spacing between the inlet and outlet headers and jointed at opposite ends thereof to the respective headers and fins provided between respective adjacent pairs of refrigerant tubes, wherein the inlet header has a refrigerant inlet for admitting a refrigerant

into interior thereof therethrough, the outlet header has a refrigerant outlet for causing the refrigerant to flow out therethrough, the refrigerant as admitted into the inlet header through the inlet is flowable through all the refrigerant tubes toward the outlet header, the refrigerant tubes are positioned above and below the center of the refrigerant inlet with respect to the vertical direction, and the number of the refrigerant tubes positioned below the center of the refrigerant inlet with respect to the vertical direction is 2 or more and less than 21.”

It is respectfully submitted that none of JP ‘920, Yamamoto et al., Hu, Kraft and JP ‘338 teaches or suggests “a plurality of flat refrigerant tubes arranged one above another in parallel at a spacing between the inlet and outlet headers and jointed at opposite ends thereof to the respective headers and fins provided between respective adjacent pairs of refrigerant tubes, wherein the inlet header has a refrigerant inlet for admitting a refrigerant into interior thereof therethrough, the outlet header has a refrigerant outlet for causing the refrigerant to flow out therethrough, the refrigerant as admitted into the inlet header through the inlet is flowable through all the refrigerant tubes toward the outlet header, the refrigerant tubes are positioned above and below the center of the refrigerant inlet with respect to the vertical direction, and the number of the refrigerant tubes positioned below the center of the refrigerant inlet with respect to the vertical direction is 2 or more and less than 21” as recited in Claim 1.

More specifically, JP ‘920 shows in Fig. 1 a header pipe 26a, a header pipe 26b and a condenser 23 provided between these header pipes 26a, 26b, and according to JP ‘920, an inlet 35 is provided on the header pipe 26b at the bottom of the condenser 23, and the other header pipe 26a is provided with a liquid tank 25 which communicates a fluid from an opening 33 at the top of the condenser 23 to an opening 34 at the bottom of the liquid tank 25 in order to provide a flow of the fluid to a subcondenser 24 provided below the condenser 23. Thus, no heat exchange tubes 27 in the condenser 23 is positioned below the inlet 35.

Likewise, Fig. 6 of JP '920 shows a header pipe 6a and a header pipe 6b, where an inlet 12 is provided on the header pipe 6a at the top of a condenser 2, and thus all tubes 7 are positioned below the inlet 12. As such, JP '920 does not disclose refrigerant tubes arranged between the inlet and outlet headers and jointed at opposite ends, where the inlet header has a refrigerant inlet and the outlet header has a refrigerant outlet such that the refrigerant flows through all the refrigerant tubes toward the outlet header, the refrigerant tubes are positioned above and below the center of the refrigerant inlet with respect to the vertical direction, and the number of the refrigerant tubes positioned below the center of the refrigerant inlet with respect to the vertical direction is 2 or more and less than 21.

Yamamoto et al., Hu, Kraft and JP '338 are cited for the subject matters pertaining to various dimensions and a refrigerant in dependent claims and are not believed to teach or suggest "a plurality of flat refrigerant tubes arranged one above another in parallel at a spacing between the inlet and outlet headers and jointed at opposite ends thereof to the respective headers and fins provided between respective adjacent pairs of refrigerant tubes, wherein the inlet header has a refrigerant inlet for admitting a refrigerant into interior thereof therethrough, the outlet header has a refrigerant outlet for causing the refrigerant to flow out therethrough, the refrigerant as admitted into the inlet header through the inlet is flowable through all the refrigerant tubes toward the outlet header, the refrigerant tubes are positioned above and below the center of the refrigerant inlet with respect to the vertical direction, and the number of the refrigerant tubes positioned below the center of the refrigerant inlet with respect to the vertical direction is 2 or more and less than 21" as recited in Claim 1.

Therefore, the structure recited in Claim 1 is believed to be clearly distinguishable from JP '920, Yamamoto et al., Hu, Kraft and JP '338, and because none of JP '920, Yamamoto et al., Hu, Kraft and JP '338 discloses the headers and flat refrigerant tube

structure as recited in Claim 1, their teachings even combined would not render the condenser recited in Claim 1 obvious.

Likewise, Claim 6 is also directed to a condenser and recites “two headers spaced apart from each other in a left-right direction and extending vertically; and a plurality of tube groups arranged one above another in parallel and each comprising a plurality of flat refrigerant tubes arranged one above another in parallel at a spacing between the two headers and jointed at opposite ends thereof to the respective headers and fins provided between respective adjacent pairs of refrigerant tubes, wherein the refrigerant tubes in each of the tube groups are arranged one above another in parallel in succession, a refrigerant is flowable in the same direction through all the refrigerant tubes constituting each of the tube groups, each adjacent pair of tube groups is different in the direction of flow of the refrigerant therethrough, one of the headers has a refrigerant inlet at a level corresponding to the tube group at an upper end for admitting the refrigerant into interior thereof therethrough, said one header has the refrigerant inlet and the other header is provided with a refrigerant outlet at a level corresponding to the tube group at a lower end for causing the refrigerant to flow out therethrough, the refrigerant as admitted through the inlet is flowable through the refrigerant tubes of all the tube groups so as to be discharged through the outlet, the refrigerant tubes are positioned above and below the center of the refrigerant inlet with respect to the vertical direction, the number of the refrigerant tubes included in an upper-end tube group and positioned below the center of the refrigerant inlet with respect to the vertical direction is 2 or more and less than 21.” Thus, Claim 6 is also believed to be distinguishable from JP ‘920, Yamamoto et al., Hu, Kraft and JP ‘338.

For the foregoing reasons, Claims 1 and 6 are believed to be allowable. Furthermore, since Claims 2-5 and 7-20 depend directly or indirectly from either Claim 1 or 6,

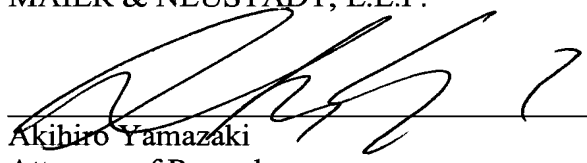
substantially the same arguments set forth above also apply to these dependent claims.

Hence, Claims 2-5 and 7-20 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicant respectfully submits that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Akihiro Yamazaki', is written over a horizontal line.

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